AMENDMENTS TO THE SPECIFICATION:

Please amend paragraph [0020], on page 9, as follows:

The silicon material comprises a wafer thickness which, as manufactured, is between about 725 and about 750 μm ~~notmm~~ thick. Thin film separation layer 1 [[2]] can be deposited by a number of methods known to those skilled in the art, such as chemical vapor deposition (CVD), plasma-enhanced CVD, or spin-on. In an exemplary embodiment, the separation layer comprises a silicon oxide formed by a plasma-enhanced CVD process with a tetraethoxysilane (TEOS) source in a process known in the art. Next, a photoresist layer is deposited upon the oxide layer and cured, using conventional photoresist processing techniques. The photoresist layer is then patterned, preferably with an optical aligner and a photomask, exposed and developed to create openings in the photoresist layer. Then, using the resist layer as a masking layer, the pattern is transferred into the underlying oxide by a dry etching method using a LAM4520XL etch chamber and $C_4F_8CO/Ar/O_2$ chemistry. Then, the resist is stripped from the oxide layer using conventional photoresist processing techniques, such as a solvent strip or an O_2 dry etch (ashing) method. Notably, the present invention is not limited to vias or through-holes but includes other shaped structures apparent to those skilled in the art such as lines, squares, and octagons.

Please amend paragraph [0021], on page 10, as follows:

The backside of the wafer to be fabricated into a silicon support membrane is lithographically patterned using a similar method. A deep reactive ion etch is used to transfer the features laterally-defined by the masking layer into the bulk substrate. A suitable deep etch method is described in co-pending ~~pending~~ patent application serial number 10/639,989, now United States Patent No. 7,060,624 ~~for patent, Docket YOR920030048US1 (misidentified in the application as YOR20030488US1)~~, which is commonly assigned with the present invention and is incorporated herein by reference.

Please amend paragraph [0025], on page 12, as follows:

The structure in FIG. 3 uses for the separation layer 4 a thin layer, about 1 micron, of molecular-cage compounds known as zeolites to separate small molecules based on size. The thin film can be deposited by spin-on. Small molecules are trapped within the molecular-cage structure, permitting larger molecules to pass. If necessary, pretreatment of the surface underlying the zeolite layer can be used to improve adhesion.